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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LUU, CUONG V

ART UNIT PAPER NUMBER

2128

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/753,676

Applicant(s)

MALY ET AL.

Examiner

Cuong V. Luu

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claims 1-19 are pending. Claims 1-19 have been examined. Claims 1-19 have been rejected.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 13-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

1. As per claims 13-18, they are rejected under U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, which is the "software product".

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention

Art Unit: 2128

was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-4, 6-10, 12-16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art, herein AAPA.**

1. As per claim 1, the AAPA teaches a method for initializing processor design, comprising the steps of:

determining one or more initialization statements of the test case simulation that identify one or more first registers of a simulated primary core (p. 2, paragraph 0006. In this paragraph the AAPA teaches initializing registers. This teaching inherits this limitation because in order to initialize registers, determining one or more initialization statements of the test case simulation that identify one or more first registers of a simulated primary core has to be performed);

reading the test case simulation and modifying scope of the initialization statements (p. 2, paragraph 0006);

initializing the first registers specified by the initialization statements (p. 2, paragraph 0006); and

processing unmodified initialization statements to initialize second registers of simulated core, as specified by the unmodified initialization statements (p. 2, paragraph 0006. In this paragraph the AAPA teaches modifying the initial state to set register. Nevertheless, it obviously does not mean all initial statements are required to be modified for initializing the registers. As a result, the unmodified initialization statements would then be processed to

initialize second registers of simulated cores as specified by the unmodified initialization statements.

However, the AAPA does not teach if the test case simulation specifies that the multi-core processor design operates in lockstep mode, modifying scope of the initialization statements nor processing unmodified initialization statements to initialize second registers of simulated core, of the multi-core processor design.

Since the AAPA teaches a lockstep mode test case simulation of a multi-core (p. 1, paragraph 0001) and a method for initializing processor design as discussed above, it would have been obvious to one of ordinary skill in the art to combine the teachings of the AAPA to create a method for initializing a multi-core processor design in a lockstep-mode test case simulation. The combination of teachings of the AAPA would have set the registers to deterministic states in a lockstep-mode test case to simulate the multi-core processor's execution of instructions within each test case to verify correct operation (p. 2, paragraphs 0004-0005).

2. As per claim 2, the AAPA teaches the test case simulation comprising one or more test cases (p. 2, paragraph 0005).
3. As per claim 3, the AAPA teaches the step of initializing comprises loading values from the modified initialization statements into the first registers (p. 2, paragraph 0006).
4. As per claim 4, the discussions in claim 1 about "processing unmodified ... initialization statements" inherits this limitation.

Art Unit: 2128

5. As per claim 6, the AAPA teaches writing a randomly selected value to non-initialized matching registers of each simulated core (p. 1, paragraph 0004. In this paragraph the AAPA cites registers and memory initially contain random data, so registers that would not initialized would be written with random data).
6. As per claim 7, these limitations have already been discussed in claim 1. They are, therefore, rejected for the same reasons.
7. As per claim 8, these limitations have already been discussed in claim 2. They are, therefore, rejected for the same reasons.
8. As per claim 9, these limitations have already been discussed in claim 3. They are, therefore, rejected for the same reasons.
9. As per claim 10, these limitations have already been discussed in claim 4. They are, therefore, rejected for the same reasons.
10. As per claim 12, these limitations have already been discussed in claim 6. They are, therefore, rejected for the same reasons.
11. As per claim 13, the system discussed in claim 7 inherits these limitations since a system need instructions to direct it to perform tasks.

12. As per claim 14, these limitations have already been discussed in claim 2. They are, therefore, rejected for the same reasons.

13. As per claim 15, these limitations have already been discussed in claim 3. They are, therefore, rejected for the same reasons.

14. As per claim 16, these limitations have already been discussed in claim 4. They are, therefore, rejected for the same reasons.

15. As per claim 18, these limitations have already been discussed in claim 6. They are, therefore, rejected for the same reasons.

16. As per claim 19, these limitations have already been discussed in claim 1. They are, therefore, rejected for the same reasons.

**Claims 5, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA as applied to claims 1, 7, and 13 above and further in view of Miller et al, herein Miller, (U.S. Patent 5,729,675).**

17. As per claim 5, the AAPA does not teach the step of modifying comprising un-designating the simulated primary core.

Miller teaches in initializing a multi-processors system a primary processor has to be identified, and this suggests that the un-designating the primary core has to be done if the

previous initialization a different core had been designated primary (col. 3, lines 18-20; col. 4, lines 3-6).

It would have been obvious to one of ordinary skill in the art to combine the teachings of the AAPA and Miller. Miller's teachings would have allowed multiple processors to start up using a single ROM (col. 3, lines 18-20).

18. As per claim 11, these limitations have already been discussed in claim 5. They are, therefore, rejected for the same reasons.

19. As per claim 17, these limitations have already been discussed in claim 5. They are, therefore, rejected for the same reasons.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cuong V. Luu whose telephone number is 571-272-8572. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah, can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. An inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.



Art Unit: 2128

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CVL



KAMINI SHAH  
SUPERVISORY PATENT EXAMINER